C2150-6

JANUARY 1986

Chilton's Food Engineering

In this issue: ENGINEERED FOODS

BUSINESS CONFIDENCE POLL IS UPBEAT

FE's exclusive survey finds the industry looking for a strong 1986. Also, readers' capital expenditure plans.

CONTROLS REVOLUTIONIZE BAKING INDUSTRY

At Baking Expo '85 FE found a wealth of new products and an industry rapidly moving to automation.

PUMPS, VALVES, AND FITTINGS

Accidents in 1985 revealed just how important this category can be.

Chilton's Food Engineering

ABOUT THE COVER

Our survey of food industry executives says: 1986 will be a very good year. We also preview equipment buying patterns for 1986.

Permission to photocopy for internal use or the internal use of specific clients is granted by Chilton Company for libraries and other users registered with the Copyright Clearance Center (CCC), provided that the base fee of $1.00 per copy of the article, plus 25¢ per page is paid directly to the CCC, 21 Congress St., Salem, MA 01970. Special requests should be addressed to The Editor. (0193-323X/85 $1.00 + 25¢)

FOOD ENGINEERING (ISSN 0193-323X) January 1986, Vol. 58, No. 1. Published monthly by Chilton Company, Chilton Way, Radnor, Pa. 19089 (Telephone 215/964-4000). Chilton Co. is a division of American Broadcasting Companies, Inc., New York, N.Y. Second Class Postage Paid at Wayne, Pa. 19087 and additional mailing offices. Title registered in U.S. Patent Office.
©Chilton Company, 1986. All rights reserved.

POSTMASTER: Send form 3579 to Food Engineering, Post Office Box Number 3018, Wheaton, IL 60189.

News

14 '86 Commodities outlook
From the Annual Agricultural Outlook Conference, held in Washington, have come projections on the prospects for commodities in 1986. Projections: Supplies are up, prices will be steady.

19 Regulating the nutrition label
Washington lawmakers are deliberating whether to require fat, cholesterol, potassium and sodium labelling on all process foods.

23 Industry staff realignments
In the face of the economic realities of today's business environment, several food companies have made major adjustments to their corporate staffs.

Departments

11 Editorial
12 Calendar
14 News/Events
19 News/Washington
23 Corporate Strategies
29 Marketplace
35 Ingredients
41 Packaging
131 New In Print
132 People

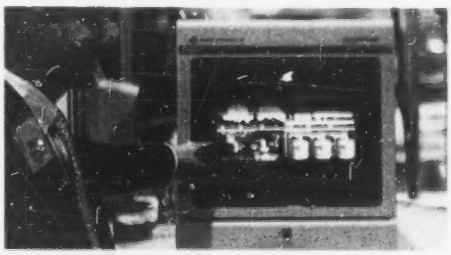
CHILLERS STILL A HOT MARKET: Brewers are becoming a force in wine coolers. Developing products that are malt-based and citrus-flavored. **PAGE 29**

Features

66 Buyers' Survey
Food Engineering has assembled, from across the broad spectrum of the food and beverage industries, 200 executives who will serve as our 1986 Executive Advisory Board. This group of men and women, from a wide range of disciplines, industries, and company sizes, will help us probe trends and buying patterns throughout 1986. This first effort looks at the food industry business climate for 1986 and trends in food processing equipment.

75 Baking Expo '85
It only takes place every four years. That's why the International Baking Industry Exposition is significant as a benchmark of baking technology. From computerized process control to robotics the Expo took at look at what's happening, and what's coming.

79 Pumps, Valves & Fittings
The special emphasis section of this issue highlights a critical area in any processing operation—pumps, valves and fittings. This issue's buyers' survey found this category will be high on the 1986 shopping list. Here we look at some of the new products buyers can choose.



BAKING EXPO '85: "High-tech" controls and a trend to "natural" products dominated the 1985 version of this quadrennial exhibition. **PAGE 75**

Engineered Foods

47 Pasta In A Jar
Ragu is introducing an ingredient/processing system that shortens the amount of time pasta and sauce products are heat processed.

49 Cottonseed Flour
The versatile cottonseed has now become a high-protein, high-fiber food ingredient.

52 Carrageenan
Cake glazes thickened with carrageenan give a lower fat, lower calorie, yet elegant alternative for desserts.

56 Modified Starches
Concern on modified food starches is unwarranted, says this author, responding to a previous *FE* article.

60 Yeast
Yeast extracts offer the opportunity to create unique flavor systems economically.

62 Literature

MODIFIED FOOD STARCHES: Few things can generate controversy like what's best for baby, especially baby's diet. Here's another view on modified starches. **PAGE 56**

New Equipment

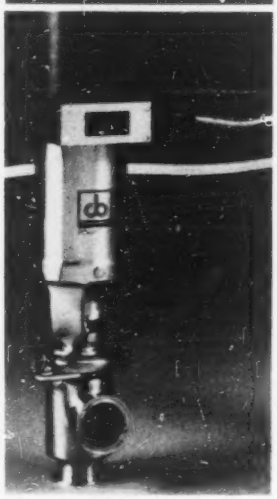
89 Handling & Distribution
97 Packaging Equipment
111 Instruments & Controls
121 Sanitation & Maintenance

Supply Line

Field Reports

94 High-impact traffic doors withstand heavy-duty punishment
105 Positive, automatic uncasing of lightweight plastic bottles
106 Production planning designed for food processors
119 Accurate temperature control in chocolate making
126 CIP system slashes cleanup time for chicken processor
129 Waste-fired cogeneration system cuts energy costs

HIGH-IMPACT TRAFFIC DOORS: These heavy duty traffic doors are taking the daily abuse of fork trucks, pallet lifts and rolling equipment. **Page 94**



Special Emphasis

VALVES, PUMPS & FITTINGS:
Pumps, valves and fittings are constantly being designed and redesigned to fit the ever-changing needs of the food industry. The latest products and trends are detailed in this issue's special emphasis section.

Pages 79 to 85

'86 Commodities Outlook: supplies, up; prices, steady

What's ahead for commodities in '86? The Annual Agricultural Outlook Conference was held in Washington, D.C., December 3-5 and the experts gave us their educated opinions.

James R. Donald, chairman of the USDA's World Agricultural Outlook Board, gave an overview of the current and predicted situation. According to Donald, bumper harvests in many world regions, especially the Soviet Union and the United States, are boosting world crop supplies for the 1985/86 season. Global supplies of coarse grains and oilseeds are especially ample.

Donald says that crop consumption is rising worldwide and ample supplies of feedstuffs are encouraging high feeding rates. Increased production in some importing countries, especially the Soviet Union and China, will cause world agricultural trade to decline in 1985/86. Intense competition from other exporters will cause further shrinkage in the U.S. share of world farm trade, after dropping sharply to $31 billion in 1984/85.

Livestock prices are strengthening, as earlier cutbacks in livestock breeding herds, responsible for record meat supplies, are now reducing marketings below 1984 levels. As meat production in 1986 continues below 1985 levels, livestock producers are likely to enjoy higher returns. World meat production could show a slight rise in 1986, as larger pork and poultry production abroad offset lower U.S. red meat levels.

WILLIAM C. DRENNAN
Senior Editor

U.S & Soviet production levels

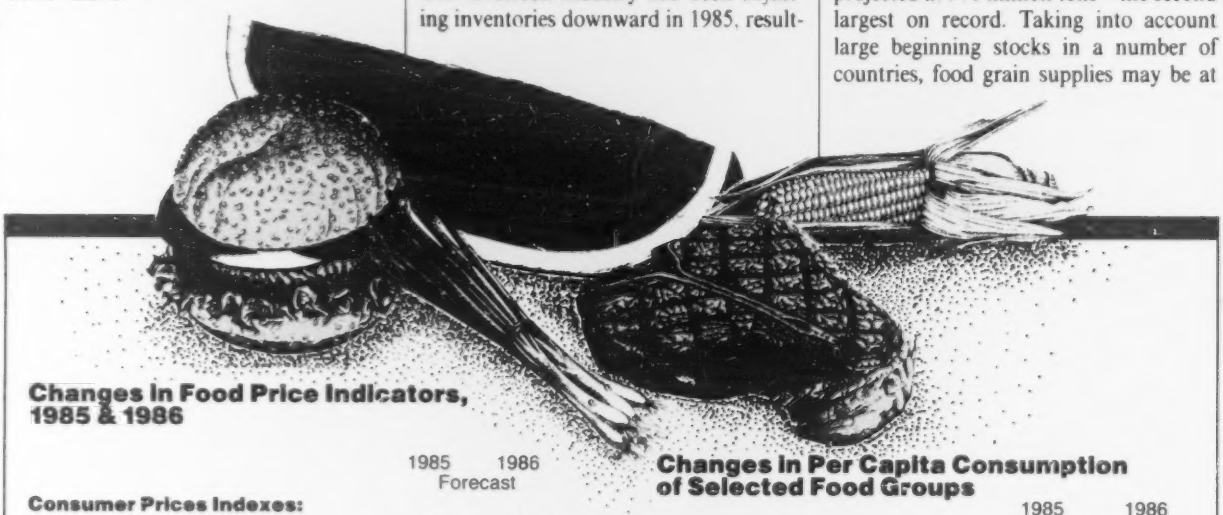
Changing production levels in the United States and the Soviet Union are key factors in the global agricultural outlook for 1985/86. U.S. crop output is expanding more than 6 percent from the 1984 level in response to improved growing conditions and higher yields. The U.S. livestock industry has been adjusting inventories downward in 1985, resulting in high livestock slaughter levels and prices substantially below a year ago. But meat production is easing and should slip below the year-earlier level in the fourth quarter of 1985 and remain at a reduced level until the fourth quarter of 1986.

In the Soviet Union, improved yields are increasing grain production by over one-tenth. This increase, coupled with prospects for larger forage production and reduced livestock inventories, suggests a sharp cutback in Soviet grain imports in 1985/86 to about one-third below the 55 million tons of 1984/85.

According to Ralph Parlett and Karen Bunch of the USDA's Economic Research Service, when data are available for all of 1985, the Consumer Price Index for food is expected to average about 2 percent above last year. This increase will be one of the smallest in 18 years.

Increases in food prices have been moderate to low for the past several years. Large supplies of farm foods at favorable prices have led to increased food consumption in the last three years.

- **Grain:** World food grain production in 1985/86, including wheat and rice is projected at 971 million tons—the second largest on record. Taking into account large beginning stocks in a number of countries, food grain supplies may be at



Changes in Food Price Indicators, 1985 & 1986

	1985	1986 Forecast
Consumer Prices Indexes:		
All food	2.2%	2-4%
Meat, poultry, and fish	– 0.6	2-4
Meats	– 1.3	3-5
Beef and veal	– 2.2	3-5
Pork	– 0.1	3-5
Poultry	– 1.2	– 2-0
Fish and seafood	4.6	2-4
Eggs	– 18.5	3-5
Dairy products	1.9	– 2-0
Fats and oils	3.0	2-4
Fruits and vegetables	2.7	1-3
Sugar and sweets	2.7	2-4
Cereals and bakery products	5.5	2-4
Nonalcoholic beverages	2.0	2-4

Changes in Per Capita Consumption of Selected Food Groups

	1985	1986 Forecast
Total Food	1%	– 1- – 2%
Animal Products	1	– 2- – 3
Meat	0	– 5- – 6
Poultry	3	3-4
Fish	1	1-2
Dairy Products	1	0-1
Crop Products	1	– 1-0
Fats and Oils	2	– 1- – 2
Vegetables	1	1-2
Fruit	0	0-0
Potatoes	2	0-1
Cereals	2	0-1

Source: USDA

an all time high. Food grain utilization should slip from last year's record level, despite lower prices. Look for a very competitive grain market in 1985/86.

World wheat import demand in 1985/86, currently projected at around 90 million tons, will be the smallest since 1979/80. Improved domestic harvests will lead to less imported wheat in 1985/86. The most dramatic development is the projected 11 million ton reduction in USSR wheat imports from the record 1984/85 level. World wheat stocks at the end of the 1985/86 marketing year are projected to climb to a record 127 million tons.

Three consecutive bumper world rice harvests have resulted in record supplies of rice on the world market. This, in combination with reduced demand have forced world rice prices to their lowest levels since the mid-60's. However, the U.S. farm loan for rice has prevented U.S. prices from matching world prices. Thus, U.S. rice has become increasingly less competitive on the world market.

Global coarse grain production is expected to reach 844 million tons in 1985/86, 4 percent over last year's record. Global use of coarse grains will reach almost 800 million tons in 1985/86 as it continues to increase. The U.S accounts for about one-fourth of world feed use and the USSR, the EC and Eastern Europe account for half of the remainder.

World coarse grain trade is expected to decline in 1985/86 by more than 8 percent. The major change will be an expected drop in Soviet imports, more than offsetting increases in other countries from last year. U.S. exports could fall below 50 million tons in 1985/86.

• **Red Meats:** Ronald A. Gustafson, Agricultural Economist for the Economic Service and Norval E. Francis, Agricultural Economist for the Foreign Agricultural Service reported on red meats. The outlook for red meats and livestock continues to be shrouded by large total meat supplies, financial problems in the farm sector and an expanding, but sluggish economy.

World meat production is expected to continue its upward movement of past years through 1985. World trade in meat is expected to resume an upward trend in 1985 and 1986. With increasing amounts of meat expected on the world market for the remainder of 1985 and through 1986, prices on all individual products will be pressured downward through 1986.

Emerging farm legislation is an uncertainty clouding the 1986 outlook. This legislation will impact the financial stability through crop loan and support programs which will offset feed grain prices and ultimately feeder livestock prices. In addition, record milk production, with over a million excess dairy cows, along with milk support price reductions could result in dairy herd reductions and increased beef supplies.

WORLD WHEAT AND FLOUR TRADE
Measured in Million Tons

	1983/84	Prelim. 1984/85	Proj. 1985/86
EXPORTS			
U.S.	38.9	38.1	27.2
Canada	21.8	19.4	16.5
Argentina	9.6	8.6	7.4
Australia	11.6	16.6	15.4
EC-10	15.4	17.5	17.5
Sub-Total	58.4	62.7	56.8
Other	5.6	8.0	6.6
TOTAL	102.9	108.2	90.6
IMPORTS			
EC-10	3.6	2.2	2.7
Mid. East & N. Africa	14.2	14.1	13.2
Egypt	6.7	6.6	6.7
Mexico	.6	.4	.3
India	2.5	.2	.1
E. Europe	3.8	2.8	4.2
China	9.6	7.4	6.5
USSR	20.5	28.1	17.0
Other	41.4	46.4	39.9
TOTAL	102.9	108.2	90.6

Source: USDA

Cattle prices should rise somewhat in 1986. Large total meat supplies should somewhat constrain rises in hog prices in the coming year. Strong competition for a smaller supply of slaughter lamb should cause increased prices in 1986.

• **Poultry:** Allen Baker, Agricultural Economist for the Economic Research Service and Jack Ross, Agricultural Economist for the Agricultural Marketing Service reported that broiler and turkey producers are expected to expand output in 1986, but egg production may be off slightly. Prices are expected to remain relatively strong.

With major production efficiency already achieved, the poultry industry is putting more earnings into product marketing. Advertising of brand names has accelerated. The role of brand-marketing is expected to continue to expand. Broiler production is expected to increase by about 4 percent and domestic prices are expected to remain steady.

Turkey production is up in 1985 and output is expected to rise again in 1986. Prices in 1986 may weaken relative to this year. Weak egg prices put egg producers in a cost-price squeeze during much of 1985. With cuts in production expected in 1986, prices may strengthen.

• **Fruit:** Ben Huang, Agricultural Economist for the Economic Research Service, reported that there are challenges facing the future of the fruit industry. Recent freezes in Florida and Texas have destroyed a large amount of citrus acerage and damaged crops. The outbreak of citrus canker in Florida has resulted in a shortage of nursery stock so that the replanting of damaged acerage will be delayed. Competition in the world market for fruit has increased, with oversupplies depressing some fruit prices.

Small supplies and stable demand should keep retail prices for most fresh and processed fruit relatively firm. Per capita fruit consumption has decreased steadily to an estimated 191.9 pounds in 1985, mostly due to higher prices.

• **Vegetables:** Shannon Hamm, Agricultural Economist for the Economic Research Service and Edmund Missiaen, Deputy Director for the Foreign Agricultural Service reported that the 1985 production of commercial vegetables—fresh and processing—is expected to be 2 to 4 percent below 1984.

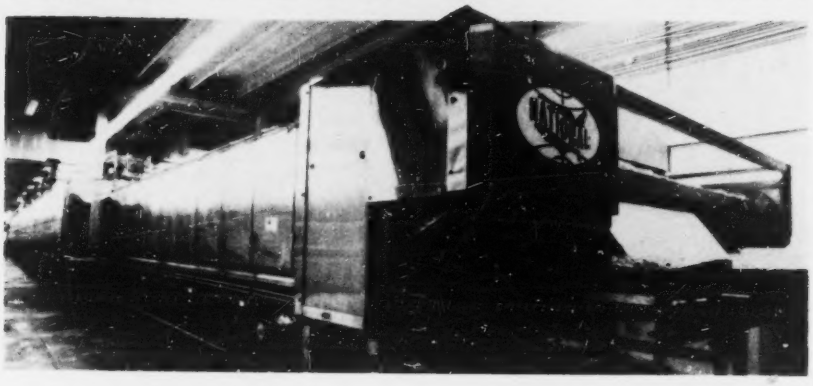
The decline results from a 3 to 5 percent reduction in dual-purpose and fresh-market vegetables and a 2 percent reduction in the four major processing vegetables.

Fresh vegetable imports have grown 7 percent annually since 1980. However, fresh imports still provide only an estimated 10 percent of the total domestic value. Fresh imports do surpass exports in value by about 25 percent. U.S. fresh-market exports have grown at an average annual rate of 2 percent since 1980.

• **Sugar:** John Nuttall, Chief of the Foreign Agricultural Service Sugar

(Continued on next page)

NATIONAL FOOD DRYERS & BLANCHERS



FOOD DRYERS . . . For continuous drying of onions, potatoes, leeks, peppers, carrots and other vegetables. NATIONAL manufactures conveyor dryers and multi-stage conveyor drying ranges where temperatures, air velocities, conveyor speeds and product bed depths are closely controlled and can be varied for different products. Careful balance of heat, air, retention time and depth of bed assures maximum attainable quality of products dried. Auxiliaries include feeders and delivery systems, cleaning devices and any other extras required.

BLANCHERS . . . Flood/Deluge, Steam and Immersion blanchers-versatile enough for both present and future processing needs.

Representatives Throughout the U.S.A. and the World

THE NATIONAL DRYING MACHINERY COMPANY
2717 North Hancock Street
Philadelphia, PA 19133
Phone: 215-739-4414
Telex: 83-1537 NADRYMA PHA

NATIONAL

Circle 13 or see FEM, p. 273

UNTIL OUR SEMINAR, THERE WAS ONLY ONE WAY TO FIND THE PROBLEMS IN PROCESS/REPETITIVE MANUFACTURING.

Process/Repetitive manufacturers face problems that other manufacturers don't. And until now, no one could help you solve them.

Marcam's seminar will. We'll address your specific problems. Introduce some solutions. And talk about everything in between.

Like yield and lot control. And the by-products and co-products produced in Process manufacturing. We'll discuss Repetitive manufacturing. Including fixed versus variable overhead. Finite scheduling. Utilization variance. And period costing.

If you'd like to learn more about how this seminar can help you, call the Process/Repetitive seminar coordinator at (617) 449-5510.

Unless you'd rather learn the hard way.

Next Seminars:
January 28-29, Los Angeles, California
March 12-13, New York City, New York
April 15-16, Chicago, Illinois

MARCAM
19 Crawford Street
Needham, MA 02192

NEWS/EVENTS

(Continued from page 15)

Group and Robert Barry, Section Leader of the Economic Research Service reported that the world sugar market continues to be depressed, despite the fact that world sugar production in 1985/86 should decline by 3 percent. Consumption is expected to increase in 1985/86 to 97.5 million tons, up from 96.8 million tons last year. However, substitution of alternative sweeteners in developed countries continues to erode consumption.

Domestic sugar production and consumption in fiscal 1986 are not expected change much from fiscal 1985, but 1986 prices will be strongly influenced by the domestic oversupply situation.

U.S. consumption of corn sweeteners in 1985 is estimated at 7.7 million tons, up almost a million tons from last year. For the first time, U.S. corn sweeteners will exceed refined sugar consumption.

Consumption of diet drinks has been boosted substantially by soft drink makers' shift to 100 percent aspartame. U.S. consumption of aspartame jumped to about 11 lbs. per capita, at the expense of saccharin. Diet drinks now make up more than 25 percent of soft drink sales.

Int'l Conference on computers in packaging

The computer is now being harnessed to accelerate the evaluation of new barrier plastic packaging. A computer model has been developed by Campbell Soup Company to predict closure peel characteristics of lidstock for multilayer barrier plastic containers during retorting. There is a high order interaction between internal vacuum levels and sealing time, temperature and pressure during retorting which explains over 90% of the variations in closure peel characteristics.

Another computer model, developed by Monsanto Chemical Company, enables prediction of cost and shelflife (oxygen permeability) performance of multilayer barrier plastic containers, by specifying container shape, volume, surface area, numbers and types of layers and forming process.

These and other presentations will be made at Compupac '86, the First international Conference and Exhibition on Computers in Packaging, to be held in Teaneck, N.J. For further information, contact Schotland Business Research, Inc., Princeton Corporate Center, 3 Independence Way, Princeton, N.J. 08540, (609) 520-0100.

Circle 14 on Inquiry Card

Circle 15 or see FEM, p. 47→

FOOD ENGINEERING'S
EXECUTIVE
ADVISORY
PANEL

Food Engineering has assembled, from across the broad spectrum of the food and beverage industries, 200 executives who will serve as our Executive Advisory Board during 1986. This group of men and women, representing a wide range of disciplines, industries, and company sizes, will help us probe trends and buying patterns throughout 1986. This first effort looks at the food industry business climate for 1986 and trends in food processing equipment.

BUYERS' SURVEY/YEAR AHEAD

WE'RE GOING FOR IT IN 1986!

In effect, that's what the food industry is saying about the year ahead. Food Engineering's Executive Advisory Panel forecasts a strong 1986. Capital spending continues robustly; foreign equipment influence grows.

Optimistic. If you're the calm, cool, and collected type, that's the word you might choose to describe the mood of the food industry going into 1986. Strip away some inhibitions, however, and you might come up with a more rousing forecast for the year. Something like: "We're going for it!".

That's pretty much the assessment *Food Engineering's* Executive Advisory Panel has made about the coming year. In fact, the closer they are to the situation, their own company or plant for example, the more excited they become. Over half (51.3%) of the survey respondents said they expect business at their company or location to increase by 10% or more this year. They're a little less confident the entire industry can match that record. Only about one in five (19.0%) said the overall food industry's business would grow more than 10%.

The size of your company or location seems to have a special effect on your outlook for 1986. Respondents from locations with less than 100 employees were much more optimistic, with almost two-thirds (64.4%) of them expecting their company's business to increase by 10 percent or more.

Actually it's hard to imagine the food industry growing even close to 10 percent in volume in any year. The industry, overall, would be lucky to achieve a 3%+ unit volume growth rate. But thanks to the American consumers' insatiable appetite for high value-added convenience products, margins in the food business could approach double digits in a number of companies. Another good sign for 1986 is the continued abundance of low-priced food commodities. In fact, in raw material prices, 1986 could be even better than 1985.

Capital expenditures

The drive for new products, which picked up steam in 1984, should continue into 1986 and, in turn, spur more capital spending. Capital spending has been on the rebound in the food industry and this year poses no threat to that momentum, according to our panel. Panelists were asked to state, within ranges, the total dollar amount their companies were budgeting for production and packaging capital expenditures at their locations and for their company overall.

About a quarter (24.1%) said that the budgets for their locations were less than $100,000. But only about one in nine (11.3%) said total company budgets were within this range. At the other end of the spectrum, about one in seven companies (34.4%) were budgeting over $2,000,000.

The median budgets were $288,193 per location and $750,000 per company.

When we asked panelists to pinpoint certain areas of processing equipment that would be on their shopping list in 1986, no category ran away from the others. Among those scoring high, however, were *instruments and controls* (8.3%), *filling equipment* (7.8%), *conveyors and belting* (7.5%), and *pumps, valves, and fittings* (7.4%). Pumps, valves, and fittings, of course, are the subject of a special survey article in this issue. We're not clear if the interest in this category is running high this year because it is such a staple in any processing operation, or because of recent safety problems thought to have involved valves and similar products.

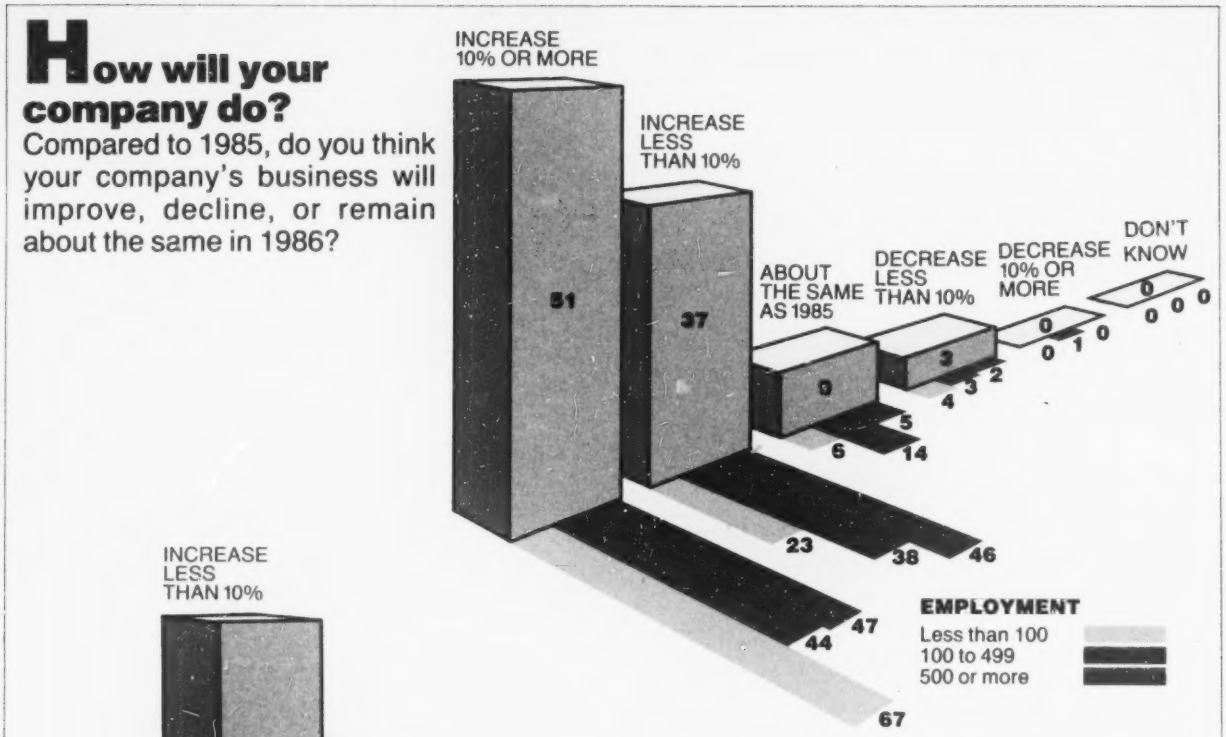
Eyeing foreign equipment

Until just recently, a strong dollar has encouraged foreign machinery suppliers to put more emphasis on the U.S. market—witness, for example, the increase in foreign exhibitors at American trade shows. With a substantial currency advantage and some well-engineered equipment, a number of European and Japanese builders have found a receptive market in the United States, encumbered with fewer nationalistic prejudices.

Our Executive Advisory Panel, in particular, reflected a positive attitude toward considering

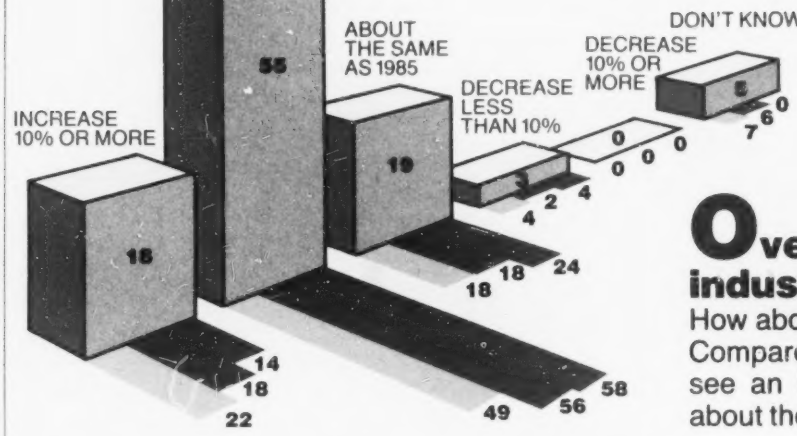
How will your company do?

Compared to 1985, do you think your company's business will improve, decline, or remain about the same in 1986?



Overall food industry?

How about the industry overall? Compared to 1985, do you foresee an increase, decrease, or about the same status for 1986?



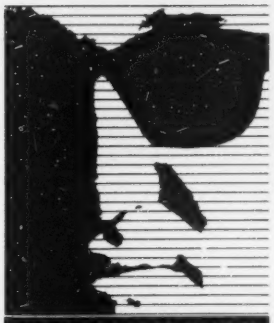
Industry-by-industry

The Advisory Panel's responses were also broken down by industry. Here's how the different industries are viewing the year ahead.

PERCENT OF FOOD PRODUCTS PRODUCED

	Meat Products	Bakery Products	Dairy Products	Flavors/ Food Ingreds.	Canned Fruit/Veg /Entrees	Fats and Oils	Frozen Fruit/Veg /Entrees	Confec- tionery Products	Cereals/ Grain Products	Beverages	Other Food Products
INCREASE 10% OR MORE	12	24	24	30	21	29	16	27	38	14	16
INCREASE LESS THAN 10%	61	56	49	43	71	47	68	54	43	63	61
ABOUT THE SAME AS 1985	20	14	16	19	8	12	16	14	14	14	16
DECREASE LESS THAN 10%	4	2	2	3	0	12	0	0	5	5	2
DECREASE 10% OR MORE	0	0	0	0	0	0	0	0	0	0	0
DON'T KNOW	4	4	9	5	0	0	0	5	0	5	5

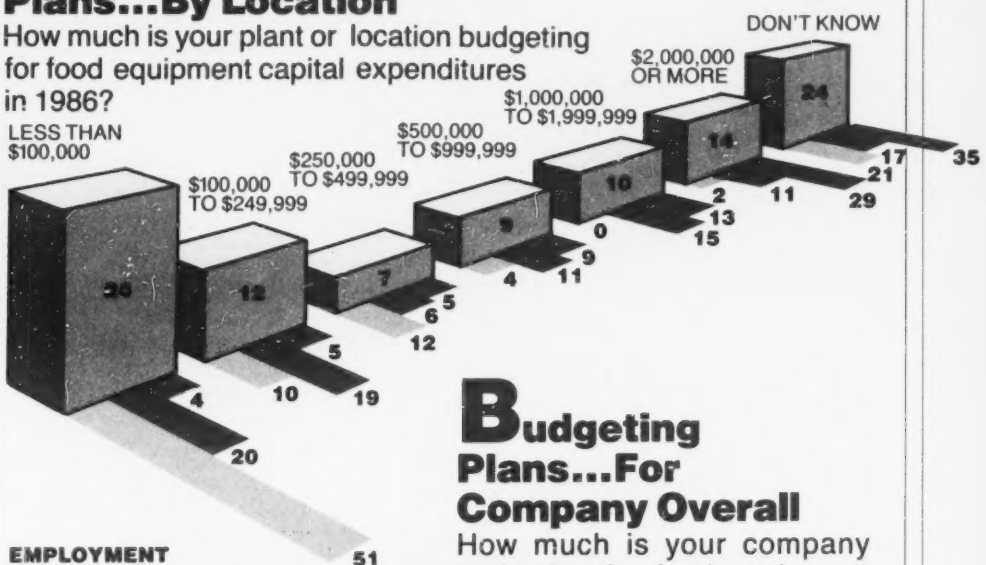
(Continued on page 68)



FOOD ENGINEERING'S
EXECUTIVE ADVISORY PANEL

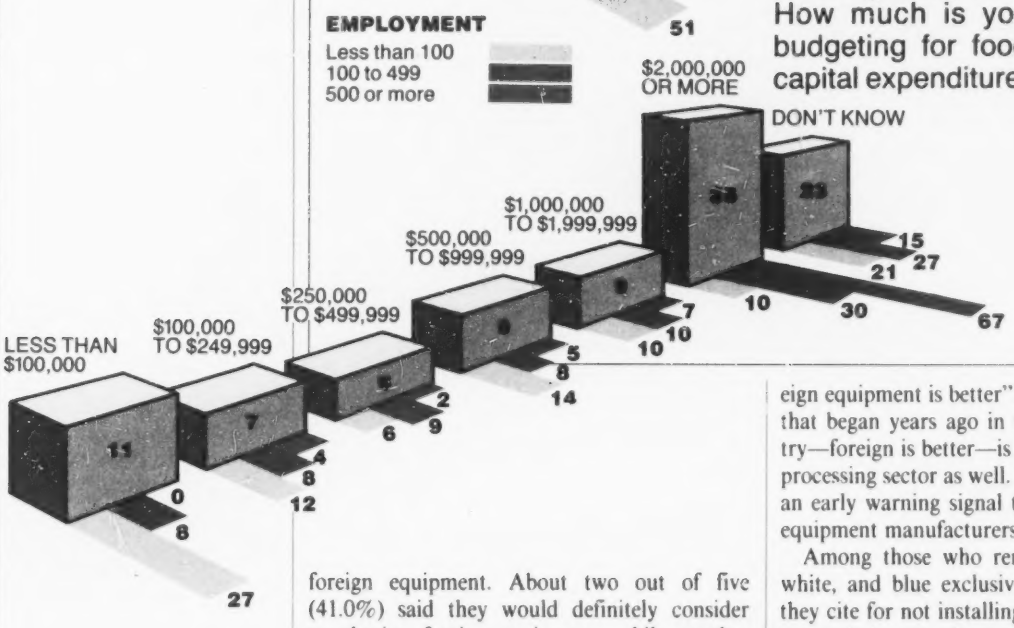
Budgeting Plans...By Location

How much is your plant or location budgeting for food equipment capital expenditures in 1986?



Budgeting Plans...For Company Overall

How much is your company budgeting for food equipment capital expenditures in 1986?



foreign equipment. About two out of five (41.0%) said they would definitely consider purchasing foreign equipment, while another third (34.9%) said they will probably consider foreign equipment. Less than a quarter (22.9%) say they are unlikely to even take a look at the foreign machines.

Again, we found differences in perspective based on company or location size. A majority (52.7%) of the locations with 500 or more employees will definitely consider foreign equipment, while less than a third (30.5%) of the locations with less than 100 employees say the same.

Among those who say they will definitely or will probably consider foreign equipment, the reason mentioned most often is quality, "foreign equipment is better". It seems a perception that began years ago in the automotive industry—foreign is better—is creeping into the food processing sector as well. This should be seen as an early warning signal to the food processing equipment manufacturers of America.

Among those who remain true to the red, white, and blue exclusively, the major reason they cite for not installing foreign equipment is not strictly out of a sense or patriotism but more of a concern about "service and parts availability". Only 14.6 percent listed "prefer to buy American" as their main reason for shopping at home.

Food Engineering's probe of the industry, then, has revealed optimism about the food business for 1986 and a fairly nice shopping list for capital equipment.

Reasons for optimism

Certainly our panel has every right to be upbeat about the next twelve months in the food and beverage industries. Large supplies of farm commodities, both global and domestic,

Where the spending will take place.

Estimate the approximate percentage of capital expenditures that will be allocated to the following categories.

dominate the agricultural outlook for 1986. Farm prices and incomes continue to be under pressure and carryover stocks are returning to the high levels of two years ago. A continued slow inflation rate and ample supplies of farm products should continue to limit increases in raw materials costs.

Global supplies of coarse grains and oilseeds will, according to most estimates, be especially ample. The 1985 yields of corn, sorghum, oats, rice and soybeans, boosted by near-perfect growing weather, helped produce the second best total crop production on record. All of this, while not helping the economic plight of our beleaguered farmers, should help the bottom line at many food companies.

Another reason food companies can look forward to 1986 is that the general economic backdrop for 1986 looks good. A number of forecasts seem to be putting GNP growth around 3 percent for 1986, not a spectacular rise but certainly sound and that's all the food industry generally requires to do well. A recent assessment in *Value Line* suggested: "Consumers are willing and able to move to high-margined convenience foods when their incomes are rising, and they also tend to shift from generic and private-label foods to the well-advertised national brands." That's true. And it's easier to persuade people to try new products when their budgets are not under pressure. Those budgets should not be under pressure this year and, again, that bodes well for the industry.

The next twelve months won't be a completely storm-free ride for everyone in the industry.

(Continued on page 73)

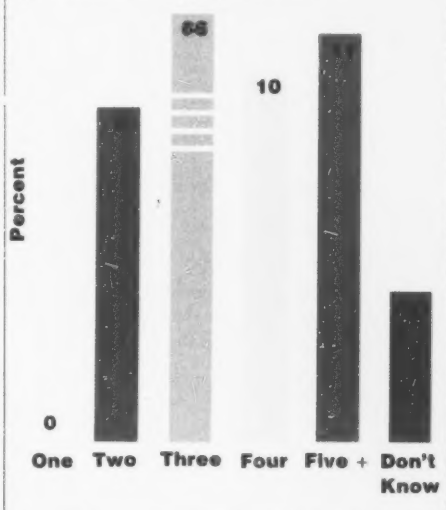
How do you buy?

Panel members were asked to rank the following in order of their likelihood to affect a decision to buy from a particular manufacturer.

INITIAL PURCHASE PRICE	3
ECONOMY OF OPERATION	1
EXPECTED DURABILITY	2
SPEED OF OPERATION	6
REPUTATION OF MANUFACTURER	4
PERSONAL EXPERIENCE WITH EQUIPMENT	5

How many quotes?

How many quotes do you usually get from manufacturers when selecting a major piece of production equipment?



There are some potential proolems. But unless the industry shows a propensity for shooting itself in the foot, it should be able to steer clear of of any business storms.

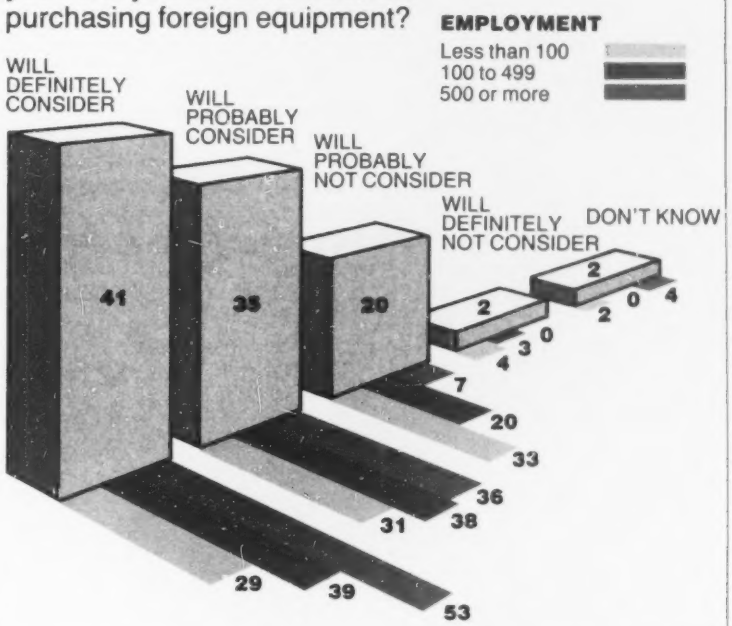
Battle for market share

Specifically, the industry must be wary that its increasingly heated battle over market shares does not lead to price cutting and, in turn, pressure on margins. While there should be few price wars in 1986, there's always the chance. Desperate conditions can breed desperate actions. In fact, price cutting could be a fall-out of the merger mania and consolidation fever that now grips the food industry. While U.S. demand for food grows only at a 1-2% clip annually, these large corporations find themselves trying to carve up a pie that grows very slowly.

Other pressures on the industry will come from increasingly automated supermarkets. The Universal Product Code is beginning to achieve its potential at about thirty percent of the supermarkets across the country with installations moving at a fast pace. Now able to quickly and efficiently track product movement, supermarkets are taking a more commanding position in dictating what products they will, or will not, stock.

Attitudes on imports

When purchasing new production equipment, how likely do you think you will be to consider purchasing foreign equipment?



Why do you say that?

This was asked of respondents who said they will consider foreign equipment.

Foreign Equipment Is Better	32%
Past Or Current Experience	23
Whatever Meets Requirements	16
Price/Value	15
All Other	6
Don't Know	8

Why do you say that?

Asked of panel members who said they will not consider foreign equipment.

Equipment Available in U.S.	16%
Service/Parts Availability	33
Prefer to Buy American	16
All Other	24
Don't Know/No Answer	11